

Appl. No. 10/696,812
Examiner: James M Hewitt, Art Unit 3679
In response to the Office Action dated March 23, 2006

Date: June 23, 2006
Attorney Docket No. 10111396

REMARKS

Responsive to the Office Action mailed on March 23, 2006 in the above-referenced application, Applicant respectfully requests amendment of the above-identified application in the manner identified above and that the patent be granted in view of the arguments presented. No new matter has been added by this amendment.

Present Status of Application

The amendment to the specification filed on July 6, 2005 is objected to under 35 U.S.C. 132(a) because it introduces new matter into the disclosure and for failure to provide proper antecedent basis for certain claimed subject matter. Claim 5 is objected to for informalities. Claims 3 and 9-20 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. Claim 21 is rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. Claim 22 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite. Claims 4-5 and 21-22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Philips (US Patent No. 6,591,437) in view of Swenson et al (US Patent No. 4,394,784, hereinafter "Swenson"). Claims 1 and 2 are allowed. Claims 6-8 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claims and any intervening claims.

In this paper, the paragraphs added in the amendment to the specification filed on July 6, 2005 are amended as described in further detail below. Claim 5 is amended according to the suggestion of the Examiner. Claims 2 and 7 are amended to correct informalities. Claims 3, 9-12, 14-15, 18-19 and 21-22 are amended to overcome the rejections under 35 U.S.C. 112. New claims 23 and 24 are added.

Reconsideration of this application is respectfully requested in light of the amendments and the remarks contained below.

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Objections to the Specification

In this paper, the specification is amended to describe that a driving element is provided for impelling the second switch structure **out of the third orientation** when the first switch structure is moved to the first orientation while the second switch structure is in the third orientation, such that the first and second switch structures cannot be respectively in the first and third orientations simultaneously. Furthermore, the specification is amended to describe that the driving element also impels the first switch structure **out of the first orientation** when the second switch structure is moved to the third orientation while the first switch structure is in the first orientation.

In addition, the specification is amended to describe that the driving element preferably impels the second switch structure **out of the sixth orientation** when the first switch structure is moved to the fifth orientation while the second switch structure is in the sixth orientation, such that the first and second switch structures cannot be respectively in the fifth and sixth orientations simultaneously. The driving element may also impel the first switch structure **out of the fifth orientation** when the second switch structure is moved to the sixth orientation while the first switch structure is in the fifth orientation

Support for these amendments is found in the specification and figures as originally filed. Namely, Fig. 8A shows a first switch 85 and a second switch 86. The first switch is moveable between a first orientation (inflate) opening a first valve 83, a second orientation (air closed) closing the first valve 83, and a fifth orientation (deflate) opening the first valve 83. The second switch is movable between a third orientation (deflate) opening a second valve 84, a fourth orientation (air closed) closing the second valve 84, and a sixth orientation (inflate) opening the second valve 84. Fig. 8B shows ears 851 and 852 extending from switch 85 and ears 861 and 862 extending from switch 86. A driving element 87 is disposed such that the ears contact and impel the driving element when moved between orientations so that electrodes 824 and 824' are brought into contact when either switch 85 or 86 is moved to the inflate orientation, or contacts 825 and 825' are brought into contact when either switch 85 or 86 is moved to the deflate orientation. Thus, when the second switch is moved into the deflate orientation, the ear 862 is rotated counterclockwise to impel the driving element left, bringing electrodes 825 and 825' into

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contact and causing the air pump to operate in the deflation direction. If the first switch is moved to the inflate orientation while the second switch is in the deflate orientation, ear 851 is rotated clockwise to impel the driving element right, bringing electrodes 824 and 824' into contact and causing the air pump to operate in the inflation direction. Furthermore, a person of ordinary skill in the art at the time of the invention would appreciate from the drawings and the context of the disclosure that as ear 851 impelled the driving element right, the driving element would impel ear 862 clockwise, ***moving switch 86 out of the deflation orientation***. In other words, it is inherent to the structure shown in Figs. 8A-8C and described on pages 13-14 of the application that the first switch to be cannot be in the inflate orientation when the second switch is in the deflate orientation, as there is only one fan that is operated in only one of these two directions at any given time.

Similarly, if the second switch is moved to the inflate orientation, ear 861 is rotated clockwise to impel the driving element right, bringing electrodes 824 and 824' into contact and causing the air pump to operate in the inflation direction. If the first switch is moved to the deflate orientation while the second switch is in the inflate orientation, ear 852 is rotated counterclockwise to impel the driving element left, bringing electrodes 825 and 825' into contact and causing the air pump to operate in the deflation direction. Furthermore, a person of ordinary skill in the art at the time of the invention would appreciate from the drawings and the context of the disclosure that as ear 852 impelled the driving element left, the driving element would impel ear 861 counterclockwise, ***moving switch 86 out of the inflation orientation***.

Similarly, when the first switch is moved to the deflate orientation, ear 852 is rotated in the counterclockwise direction to impel the driving element left, bringing electrodes 825 and 825' into contact and causing the air pump to operate in the deflation direction. If the second switch is moved to the inflate orientation when the first switch is in the deflate orientation, ear 861 is rotated clockwise to impel the driving element right, bringing electrodes 824 and 824' into contact and causing the air pump to operate in the inflation direction. Furthermore, a person of ordinary skill in the art at the time of the invention would appreciate from the drawings and the context of the disclosure that as ear 861 impelled the driving element right, the driving element would impel ear 862 clockwise, ***moving switch 85 out of the deflate orientation***.

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Applicant therefore submits that the changes made to the application disclosure are directly or inherently supported by the originally filed specification, drawings and claims as interpreted by one of ordinary skill in the art. Withdrawal of the objection under 35 U.S.C. 132(a) is respectfully requested.

Applicant further notes that the claim terminology first valve, first switch structure, second valve, and second switch structure finds antecedent basis in valve 83, switch 85, valve 84, and switch 86 of the description. Applicant further notes that the claim terminology first chamber and second chamber finds support at least in the claims as originally filed and the use of the word "chamber" throughout the specification. Withdrawal of the objections under 35 CFR 1.75(d)(1) is respectfully requested.

Rejection Under 35 U.S.C. 112

Claims 3 and 9-20 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. Applicant respectfully traverses the rejections for the reasons as follow.

To satisfy the written description requirement, a patent specification must describe the claimed invention in sufficient detail that one skilled in the art can reasonably conclude that the inventor had possession of the claimed invention. *Moba, B.V. v. Diamond Automation, Inc.*, 325 F.3d 1306, 1319, 66 USPQ2d 1429, 1438 (Fed. Cir. 2003). An applicant shows possession of the claimed invention by describing the claimed invention with all of its limitations using such descriptive means as words, structures, figures, diagrams, and formulas that fully set forth the claimed invention. *Lockwood v. American Airlines, Inc.*, 107 F.3d 1565, 1572, 41 USPQ2d 1961, 1966 (Fed. Cir. 1997). MPEP 2163.

In the present application, the rejection under 35 U.S.C. 112, first paragraph, has arisen in the context of determining whether claims 3 and 9-20 are supported by the description of the invention in the application as filed. Applicant therefore sets forth below support in the application as filed for claims 3 and 9-20.

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As amended, claim 3 recites that the first and second switch structures comprise a first ear and a second ear respectively, and the first pair of electrodes are brought into contact when the first switch structure is in a first orientation, and the second pair of electrodes are brought into contact with each other when the second switch structure is in a second orientation, and the first and second ear are arranged such that when the second switch structure is in the second orientation, the second ear is impelled by the slider when the first ear pushes against the slider ***such that the second switch structure is moved out of the second orientation.***

Fig. 8B shows first ear 851 extending from switch 85 and second ear 862 extending from switch 86. A driving element 87 (slider) is disposed such that the ears contact and impel the driving element when moved between orientations so that electrodes 824 and 824' are brought into contact when either switch 85 or 86 is moved to the inflate orientation shown in Fig. 8A, or contacts 825 and 825' are brought into contact when either switch 85 or 86 is moved to the deflate orientation in Fig. 8A. If the first switch is moved to the inflate (first) orientation while the second switch is in the deflate (second) orientation, ear 851 is rotated clockwise to impel the driving element right, bringing electrodes 824 and 824' into contact and causing the air pump to operate in the inflation direction. A person of ordinary skill in the art at the time of the invention would appreciate from the drawings and the context of the disclosure that as ear 851 pushes the driving element right, the driving element would impel ear 862 clockwise such that the switch 86 is moved out of the deflate (second) orientation. Applicant therefore submits that claim 3 finds adequate support in the application as originally filed.

As amended, claim 9 recites that when the first switch structure is in an inflate orientation, the first switch structure is impelled by the slider out of the inflate orientation when the second switch structure is moved to a deflate orientation.

As shown in Figs. 8A and 8B, when the first switch is moved to the inflate orientation, ear 851 is rotated in the clockwise direction to impel the driving element right, bringing electrodes 824 and 824' into contact and causing the air pump to operate in the inflation direction. If the second switch is moved to the deflate orientation when the first switch is in the inflate orientation, ear 862 is rotated counterclockwise to impel the driving element left, bringing electrodes 825 and

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825' into contact and causing the air pump to operate in the deflation direction. A person of ordinary skill in the art at the time of the invention would appreciate from the drawings and the context of the disclosure that as ear 862 impelled the driving element left, the driving element would impel ear 851 counterclockwise, moving switch 85 out of the inflate orientation. Applicant therefore submits that claim 9 finds adequate support in the application as filed.

Claim 10 recites limitations similar to those found in claim 3. Thus, for the same reasons discussed above in connection with claim 3, Applicant submits that claim 10 finds adequate support in the application as originally filed.

Claims 11-20 recite limitations discussed in the previous section in connection with the objection to the amendment of specification. Applicant submits that for the same reasons discussed in detail in connection with the amendment, the limitations found in claims 11-20 find adequate support in the application as originally filed.

Applicant therefore respectfully requests that the rejections of claims 3 and 9-20 under 35 U.S.C. 112, first paragraph, be withdrawn and the claims passed to issue.

Claims 21 is amended to recite a fan and motor assembly. Applicant submits the rejection of claim 21 under 35 U.S.C. 112, first paragraph, is thereby overcome.

Claim 22 is amended to recite that the first switch structure controls the air pump to operate and opens the first valve in one step, and the second switch structure controls the air pump to operate and opens the second valve in one step. Applicant submits the rejection of claim 21 under 35 U.S.C. 112, second paragraph, is thereby overcome.

Rejections Under 35 U.S.C. 103(a)

Claims 4-5 and 21-22 are rejected under 35 U.S.C. 103(a) as being unpatentable over US Patent No. 6,591,437 to Phillips (hereinafter "Phillips") in view of Swenson. Applicant respectfully traverses the rejections for the reasons as follow.

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MPEP 2142 reads in part:

To establish a *prima facie* case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations. The teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art, and not based on applicant's disclosure. *In re Vaeck*, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991).

In connection with the third criteria, MPEP 2143.03 goes on the state:

To establish *prima facie* obviousness of a claimed invention, all the claim limitations must be taught or suggested by the prior art. *In re Royka*, 490 F.2d 981, 180 USPQ 580 (CCPA 1974). "All words in a claim must be considered in judging the patentability of that claim against the prior art." *In re Wilson*, 424 F.2d 1382, 1385, 165 USPQ 494, 496 (CCPA 1970).

Claim 4 recites inflatable product including a first switch structure, connected to a first valve, wherein the first valve is mechanically opened by the first switch structure, a second switch structure, connected to a second valve, wherein the second valve is mechanically opened by the second switch structure, wherein the first switch structure and second switch structure control a pump to operate. ***Thus, in claim 4, each switch structure opens a valve, and furthermore controls a pump to operate.***

Claim 21 recites an inflatable product, including a first chamber; a motor and fan assembly; a first valve through which the motor and fan assembly inflates the first chamber; a first switch structure, connected to the first valve, wherein the first valve is mechanically opened by the first switch structure; a second chamber; a second valve through which the motor and fan assembly inflates the second chamber; a second switch structure, connected to the second valve, wherein

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the second valve is mechanically opened by the second switch structure; wherein the first switch structure and second switch structure control the motor to operate. **Thus, in claim 21, each switch structure opens a valve, and furthermore controls a motor to operate.**

Claim 22 recites an inflatable product including a first chamber; an air pump; a first valve through which the air pump inflates the first chamber; a first switch structure, connected to the first valve, wherein the first valve is mechanically opened by the first switch structure; a second chamber; a second valve through which the air pump inflates the second chamber; a second switch structure, connected to the second valve, wherein the second valve is mechanically opened by the second switch structure; wherein the air pump has a fan and motor for inflating air through the first or second valve; wherein the first switch structure controls the air pump to operate and opens the first valve in one step, and the second switch structure controls the air pump to operate and opens the second valve in one step. **Thus, in claim 22, each switch structure opens a valve, and furthermore controls an air pump to operate.**

In Philips, the control panel 83 includes a plurality of foot end cell inflation/deflation knobs 84 which are operably connected to a respective inflation/deflation valve member 86 which in turn operatively interconnects lines 67 and 68 to individually inflate or deflate one or more of the foot end cells 66. Each valve member 86 is a 3-way stop-cock valve with Luer lock fittings. The positions of the knobs 84a-84d are situated along panel 83 in a manner that corresponds with the relative positions of foot cushions 66a-66d; hence knob 84a controls inflation of cushion 66a, and so on. Additionally, a soft/firm knob 88 is operatively connected to the potentiometer member 81 for controlling the firmness/softness of the mattress 10 via regulating air pressure to the cells 14. See Figs. 4-5 and col. 3, line 59 to col. 4, line 4 of Philips.

It is therefore evident that in Philips, the knobs 84a-84d merely control the valve member 86. Another knob, i.e., the soft/firm knob 88, controls the potentiometer member 81 and the air pump assembly 16 to adjust the firmness/softness of the mattress 10. **Thus, a first knob opens a valve, while a second knob controls the operation of the "pump" in Philips.**

Swenson discloses a mattress structure having at least one pneumatic bladder. Air flow tubes are coupled into the pneumatic bladder and are connected to an electrically driven blower

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assembly. There is no teaching or suggestion in Swenson of two switch structures, each of which opens a valve, and furthermore controls a pump to operate.

It is therefore Applicant's belief that even when taken in combination, Phillips and Swenson fail to teach or suggest all the limitations of claims 4, 21 and 22. For at least this reason, a *prima facie* case of obviousness cannot be established in connection with these claims. Furthermore, as it is Applicant's belief that a *prima facie* case of obviousness is not established for claim 4, the Examiner's arguments in regard to the dependent claims are considered moot and are not addressed here. Allowance of claims 4-10 and 21-22 is respectfully requested.

New Claims 23-24

New dependent claims 23 and 24 are believed to allowable at least by virtue of their dependency from claim 11.

Furthermore, Applicant submits that the cited art fails to teach or suggest an inflatable product comprising a first and second pair of electrodes, ***the first pair of electrodes in contact when the first switch structure is in the first orientation and when the second switch structure is in the sixth orientation*** to activate the pump in the first direction, and ***the second pair of electrodes in contact when the first switch structure is in the fifth orientation and when the second switch structure is in the third orientation*** to activate the pump in the second direction, as recited in claim 23.

Finally, Applicant submits that the cited art fails to teach or suggest an inflatable product, wherein the driving element comprises a slider, the first switch structure comprises a first ear, and the second switch structure comprises a second ear, wherein ***the first ear impels the slider to a first position bringing the first pair of electrodes into contact when the first switch structure is moved to the first orientation and when the second switch structure is moved to the sixth orientation, and the second ear impels the slider to a second position bringing the second pair of electrodes into contact when the first switch structure is moved to the fifth orientation and when the second switch structure is moved to the third orientation***, as recited in claim 24.

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Conclusion

The Applicant believes that the application is now in condition for allowance and respectfully requests so.

Respectfully submitted,



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